work here as soon as his successor at Centre College is secured.

DR. H. L. IBSEN has been appointed assistant professor of animal husbandry, at the University of Wisconsin.

DR. FRANK C. GATES, formerly professor of biology at Carthage College, is now assistant professor of botany in charge of the herbarium at the Kansas State Agricultural College, at Manhattan Kansas.

MR. C. E. ALLRED has been appointed chief of the new Department of Agricultural Economics in the University of Tennessee. This department is to embrace all work done in farm economics, farm management and rural sociology. Research work in these subjects is being planned. Previous to taking up this work Mr. Allred was farm management specialist for Tennessee.

DR. WILLIAM F. PROUTY, assistant state geologist of Alabama since 1906, and professor of geology and mineralogy at the University of Alabama since 1912, has resigned to accept the professorship of stratigraphic geology at the University of North Carolina.

DR. DOUGLAS R. SEMMES, formerly professor of geology in the Agricultural and Mechanical College of Texas, and recently engaged in oil work in the Texas fields, has been elected associate professor of geology in the University of Alabama to fill the vacancy caused by the resignation of Dr. Prouty.

DISCUSSION AND CORRESPONDENCE

SNOW-ROLLERS

TO THE EDITOR OF SCIENCE: The wind-blown snowballs described by Mr. L. E. Woodman in your issue of August 30, p. 210–211, are known to meteorologists as "snow-rollers," and are rather frequently reported. The most extensive account of snow-rollers in the English language is that given in the *Quarterly Journal* of the Royal Meteorological Society, Vol. 34, 1908, p. 87–96. This is mainly a compilation of accounts of the phenomenon previously published in scientific books and journals, and is illustrated. Some of these accounts appeared in the Monthly Weather Review (published by the U. S. Weather Bureau). Probably the most important contribution to the subject of snow-rollers is the article "Schneewalzen," by Rudolf Meyer, in Korrespondenzblatt des Naturforscher-Vereins zu Riga, Vol. 52, 1909. This gives a list and analysis of all cases known to the writer between the years 1808 and 1909, and is accompanied by a bibliography which lists 35 previous papers on the subject in several languages.

C. F. TALMAN

U. S. WEATHER BUREAU,
WASHINGTON, D. C.

TO THE EDITOR OF SCIENCE: I was much interested in Professor Woodman's account of "A Snow Effect," in your issue of August 29. Years ago, at the time of the great blizzard in 1888, I saw the snow rolled up by the wind into pillow-like balls in Clay County, Kansas, and these snowballs were actually rolled uphill. The wind was very strong from the northwest and the snowballs were formed on slopes facing the northwest. The following note is taken from my diary of the time:

> January 12, 1888.—In the morning we had wind and snow from the southeast, which gradually changed to the southwest. The snow was very soft and moist and about six inches deep. At three o'clock P.M. the wind changed to the northwest, blowing very strong and cold, which rolled the snow up into large rolls like pillows, some being two feet in diameter and three feet long, and some even larger. In some places more than a dozen could be counted on a square acre.

These pillow-like balls were narrow in the center and became wider toward the outside, leaving a sort of funnel-like depression at each end.

JOHN H. SCHAFFNER

DEPARTMENT OF BOTANY,
OHIO STATE UNIVERSITY

TO THE EDITOR OF SCIENCE: A snow effect similar to that reported by Professor Woodman in your issue of August 29 occurred last spring at Fort Snelling, Minnesota.

The parade ground at the Fort was dotted one morning by snow balls. I thought, on

first seeing them, that the men had been discharging their excess energy by playing in the snow, and that the balls merely marked the beginning of a snow fort.

As I approached the parade ground, however, I noted, first, the absence of footprints in the snow; second, that the paths of the balls were in general parallel, and third, that the "balls" were rolled in one direction only, like cotton batting or a bundle of rugs, and that they were properly speaking "rolls" instead of "balls" So I was forced to the conclusion that they were the effect of the wind.

On questioning the old inhabitants of the Fort I learned that they were indeed wind-blown, and that such effects occurred not infrequently there.

The "balls" or "rolls" varied greatly in size. Some were over three feet in diameter, but the majority were smaller, about two feet. The largest one that I saw was about four feet in diameter and two feet thick.

They were all bi-concave. The paths in their wakes were triangular in shape, and varied greatly in length, depending of course on the size of the ball. The path of the large roll mentioned above was over fifty feet in length.

All the larger balls had fallen on one side, showing that size was not so much a matter of wind-power as it was of balance.

There were about three inches of soft snow on the ground, and the velocity of the wind was nearly cyclonic.

Karl M. Dallenbach
Cornell University

A WALL-SIDE MIRAGE

To the Editor of Science: Dr. Knowlton's note on "An unusual mirage" in Science for October 3, suggests mention of a mirage on a vertical north-south wall, on Garden Street, Cambridge, when the warm afternoon sun shines on it in quiet weather. If the observer stands close to the plane of the wall, he can easily see a mirror-like reflection of the elbow or of the side profile of a person who is walking near the wall, fifty or a hundred feet away.

W. M. Davis

QUOTATIONS

THE BRITISH ASSOCIATION

The authorities of the British Association for the Advancement of Science have made known their satisfaction with the meeting at Bournemouth, which ended last Saturday. This judgment doubtless was determined by the old standard, which, even before the war, was neither high nor rising. A warm welcome from the beautiful town, convenient arrangements for the meetings, summer weather, and nearly 1,500 members, including quite a number of scientific men, plenty of attractive subjects dealt with by speakers who "drew," and excursions with a decent scientific pretext—such were the materials that produced success. It is to be noticed that they would have suited the requirements of almost any kind of congress. It is more difficult to distinguish in them the "differentia" of a meeting for the advancement of science. Where revelations of the secrets of the war had been promised, there the visitors thronged. The vast growth of naval engines and armaments, hydrophones in fish-like cases, paravanes, sound ranging devices, airships and aeroplanes, tanks and submarine mines, poison gas and high explosives, excited and delighted the members of the British Association precisely as they would have excited and delighted the general public. There was a refrain of the achievements of British men of science, as opposed to the vaunted science of Germany, but there was very little of detailed scientific statement or discussion of methods. Almost equally popular were the items in the Educational Section. Sir Robert Blair on continuation schools, Bishop Welldon on citizenship, General Baden-Powell on the Boy Scout movement, other speakers on the advantages of private schools or the benefits of a sound knowledge of English, received and deserved attention. In mentioning a few other examples of the subjects that attracted large audiences we throw no doubt on the value of knowledge on the political bearings of international rivers, the use of hypnotism in treating shell-shock, or whether or not the working day should be